

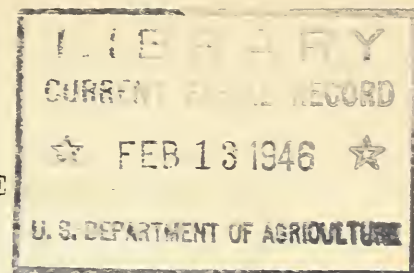
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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

INSECT PEST SURVEY



SPECIAL SUPPLEMENT (1946, No. 1.)

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+ STATUS OF THE EUROPEAN CORN BORER¹ IN 1945

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Distribution

As shown on map 1, the European corn borer spread into relatively little new territory in 1945, according to the results of scouting by States concerned with the insect's further distribution. The greatest dispersion of the pest was recorded in Minnesota where it was found for the first time in 1945 in 12 counties northwestward of the previously infested southeastern section of the State. Six more counties were found infested in northern Wisconsin, leaving only 1 northern county in that State in which specimens of the insect have not yet been observed. In Kansas the known presence of the corn borer in 1 county on the eastern border of the State was extended westward 3 counties along the Kansas River. Additional first records were also procured in 1945 in 2 counties in northwestern Missouri, in 1 county in western Iowa, in 1 county in northern Virginia, in 1 county in eastern West

1/ The information presented in this report was accumulated by the Bureau of Entomology and Plant Quarantine and the following State agencies; The Indiana State Department of Conservation; the Illinois Natural History Survey; the Entomological Commission of Kansas; the State Departments of Agriculture of Maine, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Tennessee, Vermont, Virginia, West Virginia and Wisconsin; the State Agricultural Experiment Stations of Connecticut, Iowa, Maryland, Missouri, Nebraska, New York (Geneva), Ohio and South Dakota; and the Virginia Truck Experiment Station. The data were assembled and tabulated at the Lafayette, Ind., substation of the laboratory for European corn borer research, Toledo, Ohio, Wm. G. Bradley, in charge.

Virginia, and in 3 counties in the northeastern part of North Carolina. No further dispersion of the borer was found in Nebraska or Tennessee in 1945, and scouting in several counties in the southeastern corner of South Dakota failed to show the presence of the insect in that State.

The following list records the counties first found infested by the corn borer in 1945:

Iowa (1 county)
Ida

Kansas (3 counties)
Douglas, Johnson, Shawnee

Minnesota (12 counties)
Anoka, Blue Earth, Brown, Carver, Hennepin, McLeod, Meeker, Nicollet,
Scott, Sibley, Watonwan, Wright

Missouri (2 counties)
Buchanan, Holt

North Carolina (3 counties)
Dare, Gates, Hertford

Virginia (1 county)
Madison

West Virginia (1 county)
Jefferson

Wisconsin (6 counties)
Ashland, Bayfield, Forest, Iron, Oneida, Sawyer

Fall Abundance

The Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture in cooperation with various interested State agencies, as in previous years conducted a survey in 1945 to determine the fall abundance of the European corn borer in 398 counties within 22 States infested by the insect in northeastern United States. In general, the survey procedures were the same as those used by the Bureau and State agencies during similar surveys in recent years. By this method 10 cornfields at random were sampled within each county, the percentage of plants infested being obtained by examining 25 consecutive corn plants taken at a given distance within a field from near the middle of its most accessible edge, and the number of borers per infested plant being determined by dissecting the first 2 plants found infested. Some of the State agencies sampled more fields per county or examined more stalks per field, or both. The product of the percentage of plants infested in a field and the average number of borers per infested plant provided a figure designated as the average number of borers per 100 plants. The borer population data for the individual fields were then used in the calculation of the county averages.

Table 1 presents a summary of the abundance data obtained for all counties and States in 1945 and gives comparable data for 1944. Table 2 shows the average number of borers per 100 plants for each county in the different States surveyed in 1945 and also includes all possible comparisons with similar data for 1944. It should be noted that a zero recorded for any county in table 2 indicates a borer population so low that no infested plants occurred within the specified count and does not necessarily mean the complete absence of the borer. The relative abundance of the borer in corn in portions of the infested area surveyed in 1945 is shown on map 2.

According to the results of the survey, populations of the corn borer increased significantly from the fall of 1944 to the fall of 1945 in the greater portion of the Corn Belt, including the comparable surveyed sections of Ohio, Indiana, Illinois, Wisconsin, Iowa, and Missouri. Slightly over 40 percent of the 197 counties compared in these States had significantly greater numbers of borers in 1945 than in 1944 and in many of the other counties the trend of borer abundance over the same period was definitely in the direction of an increase. A few counties showed significant decreases from 1944 to 1945 and in a number of others the level of borer abundance was about the same in both years. The 1945 level of population ranged from 101 to 300 borers per 100 plants in 55.1 percent of the 69 counties surveyed in Indiana, in 41.2 percent of 34 surveyed in Illinois, in 36.7 percent of 30 surveyed in Ohio and in 25 percent of 40 surveyed in Wisconsin. In Iowa 14.3 percent of the 35 surveyed counties in 1945 averaged 100 to 150 borers per 100 plants. In 14.7 percent of the counties surveyed in Illinois in 1945, the number of borers per 100 plants was between 301 and 450. The heaviest concentration of the insect in the Corn Belt in the fall of 1945 was found in north central Illinois.

The corn borer also increased significantly from 1944 to 1945 in the surveyed section of Pennsylvania and in all counties surveyed in Maine, where as in most of the other eastern States the level of the insect's abundance

showed little change in these two years. Perhaps the most striking characteristic of the infestation in the East in 1945 was the heavy abundance of borers in a considerable section of counties in southeastern Pennsylvania and extending southeast into southern New Jersey and southwest into most of Maryland west of Chesapeake Bay. Some of the highest populations of the insect in 1945 were found in the southeastern corner of Pennsylvania, on Long Island, N. Y., in several scattered counties along the southern coast of New England, and on the Eastern Shore of Virginia. A significant decrease occurred from 1944 to 1945 in the northeastern corner of North Carolina.

The portion of western Ohio surveyed, comprising 30 counties, showed a significant increase in the level of corn borer populations from 57.4 borers per 100 plants in 1944 to 79.8 in 1945. Increases were most noticeable in the southwestern and northwestern corners of the State, while between these two sections and in several of the most southeastern counties surveyed, numbers of the borer were lower in 1945 than in 1944. Lucas County at the end of Lake Erie and 10 of the State's southwestern counties each averaged between 105 and 190 borers per 100 plants in 1945.

In Indiana, where 69 counties were surveyed, the number of borers per 100 plants increased from 72.9 in 1944 to 130 in 1945, over half of the counties showing significant increases. Borer populations were somewhat lower in several counties near the western part of Indiana and in the two most southeastern counties of the State. Populations above 100 borers per 100 plants occurred throughout most of the northern third of Indiana in 1945 and averages from 102.4 to 261.2 borers per 100 plants were found in 38 of the 69 surveyed counties. White and Warren Counties, with 370 and 357 borers per 100 plants, respectively, showed the highest infestation in the State in 1945.

Corn borer populations in the area of 34 surveyed counties of Illinois, representative of the northern two-thirds of the State, increased from 117.4 larvae per 100 plants in 1944 to 148.6 in 1945. Significantly greater numbers of the borer were found in 1945 than in 1944 in one-third of these surveyed counties, the general increase being especially marked throughout the northcentral part of the State. The insect was also the most abundant in 1945 in this section, where the five counties of Ogle, Livingston, Boone, Dekalb, and Whiteside, averaged, respectively, the following numbers of borers per 100 plants: 414.8, 363.4, 363.2, 330.2, and 307.6. In 14 other Illinois counties the average numbers of borers per 100 plants in 1945 ranged from 114.2 to 298.8.

In the eastern half of Iowa, in the 28 comparable counties surveyed, the borer increased from 44.8 larvae per 100 plants in 1944 to 60.5 in 1945. Most of the increase occurred west of a group of counties on the eastern edge of the State along the Mississippi River where borer populations were somewhat lower in 1945 than in 1944. Within the area of increase each of 5 counties averaged over 100 borers per 100 plants. These counties and their respective borer populations per 100 plants were as follows: Johnson, 142.8; Linn, 112.4; Benton, 110.8; Tama, 110.2; and Iowa, 102.6.

Significant increases in borer abundance from 1944 to 1945 occurred in a considerable number of Wisconsin counties and the average for 28

comparable counties of 49.3 borers per 100 plants in 1944 was raised to 85 in 1945. A total of 40 counties surveyed in the State in 1945 averaged 70.9 borers per 100 plants. Ten of these counties had populations of 104 to 216.8 larvae per 100 plants.

In 8 comparable counties of northeastern Missouri, along the Mississippi River, the relatively low average borer population of 2.7 larvae per 100 plants in 1944 changed significantly to 15.6 in 1945. Borers were scarce in 4 scattered counties toward the northwestern part of the State surveyed for the first time in 1945.

The European corn borer apparently did not increase to any great extent from 1944 to 1945 in southeastern Minnesota, and an average of only 1.9 larvae per 100 plants was found during a survey of 16 counties in that part of the State in 1945.

Along the eastern edge of the "thumb" of Michigan the status of the corn borer was about the same in 1945 as in 1944. Fewer than 100 borers per 100 plants were found in any of the 6 counties surveyed in these years.

Only three widely separated counties in Kentucky were surveyed in 1945 and light borer infestations were found in each of them.

The borer increased in numbers in 27 counties of Pennsylvania, taken as a whole, from 75.3 larvae per 100 plants in 1944 to 147.1 in 1945. One of the most severely infested sections of the country in 1945 was in southeastern Pennsylvania where 9 counties showed significant increases. In 13 counties in this section, or in more than one-third of those surveyed in the State in 1945, populations averaged over 100 larvae per 100 plants, and in the 6 counties of Philadelphia, Chester, Delaware, Montgomery, Berks, and Lebanon, the average numbers of borers per 100 plants were, respectively: 726.3, 520.3, 469.3, 420.3, 411.2, and 301.4.

In New York State significantly more borers were found in 1945 than in 1944 in 3 of the western counties, although populations are still relatively low, and in Suffolk County on Long Island, with 414 borers per 100 plants. Nassau County on Long Island averaged 752.8 borers per 100 plants and showed the greatest abundance of the insect of any county surveyed in the country in 1945. Four counties in the Hudson River Valley of New York averaged from 108.8 to 150.8 larvae per 100 plants in 1945, and Columbia County in the same section had 378.4 borers per 100 plants.

In New England, a very definite increase of borers occurred in Maine from 15.1 borers per 100 plants in 1944 to 56.9 in 1945. Lincoln County in that State, with 88.8 larvae per 100 plants, had the highest population in 1945. In general little change occurred from 1944 to 1945 in abundance of the borer in the other New England States although an occasional county in each of the States showed a significant increase or decrease. The highest levels of population appeared in New Haven County, Conn., Washington County, R.I., and Bristol County, Mass., all of which represented increases from 1944 to 1945. The average numbers of borers per 100 plants in these 3 counties, respectively, were 389, 351.6, and 324.2.

Relatively serious infestation by the borer continued in central and southern New Jersey, with maximum averages of 407.2 and 314.8 larvae per 100 plants occurring in Burlington and Salem Counties, respectively. Populations in 7 other counties of the State ranged from 102.7 to 266.6 borers per 100 plants.

No significant change occurred in borer abundance in Delaware from 1944 to 1945. The insect was most abundant in 1945 in Sussex County in the southern third of the State where the population averaged 128.6 larvae per 100 plants.

The status of the corn borer also remained about the same in 1945 as in 1944 in the comparable counties surveyed on the Eastern Shore of Maryland and Virginia and on the Virginia mainland. Accomac and Northampton Counties in Virginia averaged the highest, with 581.2 and 290.8 borers per 100 plants, respectively. Other Virginia counties were only lightly infested. Throughout Maryland west of Chesapeake Bay, except in the 2 most southern counties surveyed, corn borer populations were relatively high in 1945, averaging per county from 129 to 276.6 larvae per 100 plants. This section of Maryland is contiguous to that part of southeastern Pennsylvania where the insect was so abundant in 1945.

Corn borer populations in the three counties surveyed in northeastern North Carolina were reduced very appreciably from 1944 to 1945.

Conditions during the 1945 season in several ways appeared favorable for the European corn borer over much of the infested territory. In general, moisture was abundant and fairly well distributed and the desiccating effects of very hot dry weather were missing to a large extent. However, an unusually early start of spring in March was slowed down appreciably by subsequent low temperatures accompanied by excessive precipitation in April, May, and June, followed by a relatively cool summer. The cool, wet spring conditions resulted in a retardation in development of the corn borer which persisted throughout the season. Generally late planting of corn was necessitated by the unfavorable spring weather and much of the crop went into the ground at about the same time. It is probable that the late planting of corn in 1945, in spite of the accompanying seasonal retardation in borer development, was the cause of some reduction in larval survival, especially in the first generation of the insect. The survey data show that generally the numbers of borers found per infested plant in 1945 were not much different from those recorded in 1944 but that the proportion of corn plants infested in 1945 was considerably higher than in 1944. In other words, the borer populations in corn were more evenly distributed in the fall of 1945. Relatively few instances were noted in the Corn Belt this year of especially severe damage in individual fields or of appreciable stalk breakage resulting from heavy populations. Nevertheless, the balance of all factors favored a moderate increase in corn borer abundance from 1944 to 1945 over a large portion of the infested territory.

Summer Abundance in Early Sweet Corn

Data were taken in 1945 on European corn borer abundance in the earliest fields of sweet corn in several localities where this crop is grown for

sale in nearby markets or at roadside stands. Fields of this type are generally the most heavily infested by the corn borer. A summary of the 1945 populations and a comparison with similar data for 1944 are given in table 3.

The corn borer was less abundant and injurious to early sweet corn near New Haven, Conn., and in the Beverly District of New Jersey in 1945 than in either 1943 or 1944. Numbers of the insect in this crop in both localities were near the lowest on record--2 and 1.6 borers per plant, respectively--since borer populations in these sections reached economic importance. Much less infestation in sweet corn in 1945 was also reported from New York State. An increase occurred in the borer infestation of early sweet corn in York and Cumberland Counties in Maine from 1944 to 1945, the population in 20 of the highest fields in York County averaging 1.4 borers per plant in 1945. In the vicinity of Toledo, Ohio, corn borer abundance in sweet corn did not differ appreciably in 1945 from that in 1944. Damaging populations of 10 borers per plant were reached in both years. Somewhat reduced infestation in 1945 (6.2 borers per plant) from 1944 (12.7 borers per plant) developed in the locality serving the Cincinnati, Ohio, sweet corn market. In early sweet corn near Muscatine, Iowa, the numbers of corn borers per plant increased from 0.6 in 1944 to 3.3 in 1945, and an infestation of 4.4 borers per plant was found in 1945 in several fields of sweet corn surveyed near Rock Island, Ill. No significant change occurred from 1944 to 1945 in the relatively low borer abundance in sweet corn in the vicinity of East St. Louis, Ill., where the earliest fields averaged less than one-third of a borer per plant.

Table 1.--Summary by States of European corn borer abundance in corn, fall of 1945, and comparisons with data for 1944

	1945		1944		1945		Significant
	Average		Comparable		Average		change
	borers		counties		borers		from 1944
	per 100		1945		per 100		plants
State	Counties	plants	with 1944	1944	1945	1945	1945
	Number	Number	Number	Number	Number	Number	
Connecticut----	8	145.0	5	162.6	179.2		None
Delaware-----	3	90.9	3	76.5	90.9		"
Illinois-----	34	148.6	34	117.4	143.6		Increase
Indiana-----	69	130.0	69	72.9	130.0		"
Iowa-----	35	50.2	28	44.8	60.5		"
Kentucky-----	3	27.0	3	16.9	27.0		"
Maine-----	14	56.9	14	15.1	56.9		"
Maryland-----	14	167.3	2	71.4	44.4		None
Massachusetts--	4	180.7	4	172.1	180.7		"
Michigan-----	6	52.6	6	53.9	52.6		"
Minnesota-----	16	1.9	2	14.4	7.0		"
Missouri-----	12	10.4	8	2.7	15.6		Increase
New Hampshire--	9	29.1	9	27.4	29.1		None
New Jersey-----	19	118.2	19	143.0	118.2		"
New York-----	20	126.2	20	126.3	126.2		"
North Carolina-	3	3.5	3	392.5	3.5		Decrease
Ohio-----	30	79.8	30	57.4	79.8		Increase
Pennsylvania---	33	142.7	27	75.3	147.1		"
Rhode Island---	1	351.6	1	59.0	351.6		"
Vermont-----	11	23.2	10	38.3	24.4		None
Virginia-----	14	89.3	11	188.2	112.6		"
Wisconsin-----	40	70.9	28	49.3	85.0		Increase
Total-----	398	-	336	-	-		
Areal av.----	-	96.6	-	80.6	103.1		None

Table 2.--European corn borer abundance in corn, fall of 1945, and comparisons with data for 1944

State and county	Average borers per 100 plants		State and county	Average borers per 100 plants	
	1944	1945		1944	1945
	Number	Number		Number	Number
<u>Connecticut:</u>			<u>Illinois (Cont'd):</u>		
Fairfield-----	177.4	108.4	McLean-----	105.8	275.2
Hartford-----	357.8	200.0	Mercer-----	149.0	114.2
Litchfield-----	99.8	53.6	Moultrie-----	46.6	71.2
Middlesex-----	110.2	145.0	Ogle-----	239.8	414.8
New Haven-----	68.0	389.0	Peoria-----	72.4	148.2
New London-----	-	131.4	Sangamon-----	19.2	37.2
Tolland-----	-	63.2	Vermilion-----	96.4	188.2
Windham-----	-	69.4	Whiteside-----	200.6	307.6
			Will-----	113.4	83.2
Average:			Winnebago-----	252.2	245.8
5 counties-----	162.6	179.2	Woodford-----	121.6	210.2
8 counties-----	-	145.0			
			Average:		
<u>Delaware:</u>			34 counties----	117.4	148.6
Kent-----	35.7	77.8			
New Castle-----	110.4	66.4	<u>Indiana:</u>		
Sussex-----	83.3	128.6	Adams-----	54.2	165.0
			Allen-----	45.6	195.8
Average:			Bartholomew-----	105.4	69.6
3 counties-----	76.5	90.9	Benton-----	149.2	186.2
			Blackford-----	166.2	129.0
<u>Illinois:</u>			Boone-----	23.0	133.4
Adams-----	16.8	29.4	Carroll-----	32.4	117.2
Boone-----	358.2	363.2	Cass-----	36.8	78.4
Brown-Cass-----	25.0	38.4	Clay-----	23.0	26.8
Bureau-----	180.2	298.8	Clinton-----	26.8	108.8
Champaign-----	125.2	105.8	Dearborn-----	49.2	108.4
Christian-----	17.2	85.6	Decatur-----	28.8	238.0
Clark-----	20.4	13.8	DeKalb-----	67.2	132.0
DeKalb-----	132.8	330.2	Delaware-----	91.6	102.4
DuPage-----	182.0	140.8	Elkhart-----	74.0	170.8
Hancock-----	4.8	17.2	Fayette-----	111.0	212.6
Henderson-----	32.4	72.8	Fountain-----	65.2	22.8
Iroquois-----	240.8	96.6	Franklin-----	157.8	127.8
Jasper-----	5.2	1.0	Fulton-----	48.0	187.2
Jo Daviess-----	289.8	179.2	Gibson-----	2.0	22.4
Kankakee-----	218.2	133.0	Grant-----	24.0	219.2
Knox-----	84.6	86.2	Hamilton-----	69.2	83.2
Lake-----	139.6	122.8	Hancock-----	29.8	60.2
LaSalle-----	163.4	232.0	Hendricks-----	11.8	26.8
Lawrence-----	19.6	7.6	Henry-----	103.6	132.8
Livingston-----	230.0	363.4	Howard-----	36.2	24.0
Logan-----	42.4	151.0	Huntington-----	119.0	259.6
Macon-----	37.0	42.0	Jasper-----	155.6	147.4
McDonough-----	9.2	44.2	Jay-----	51.4	55.8

Table 2.--European corn borer abundance in corn, fall of 1945, and comparisons with data for 1944 - Continued

State and county	Average borers per 100 plants		State and county	Average borers per 100 plants	
	1944	1945		1944	1945
	Number	Number		Number	Number
Indiana (Cont'd)			Iowa:		
Jefferson-----	16.6	85.8	Allamakee-----	25.0	4.0
Johnson-----	36.2	68.0	Appanoose-----	-	3.0
Knox-----	26.8	85.0	Benton-----	25.4	110.8
Kosciusko-----	49.0	252.2	Bremer-----	14.4	34.8
Lagrange-----	112.6	236.2	Buchanan-----	15.4	48.0
Lake-----	116.0	112.8	Cedar-----	88.8	75.0
La Porte-----	67.6	91.6	Clinton-----	83.8	77.6
Madison-----	68.2	65.0	Dallas-----	-	10.0
Marion-----	32.2	54.2	Dubuque-----	65.0	46.0
Marshall-----	134.4	254.8	Fayette-----	23.8	27.8
Miami-----	19.0	57.8	Floyd-----	3.6	22.4
Montgomery-----	40.8	33.8	Franklin-----	-	7.8
Newton-----	287.0	231.8	Greene-----	-	6.2
Noble-----	152.4	249.4	Grundy-----	23.8	65.2
Ohio-----	158.8	115.4	Henry-----	23.8	33.8
Parke-----	69.8	59.4	Howard-----	13.6	9.0
Porter-----	56.2	169.3	Iowa-----	38.0	102.6
Posey-----	2.2	37.6	Jackson-----	100.0	59.8
Pulaski-----	72.2	141.4	Jasper-----	16.6	49.0
Putnam-----	30.4	13.8	Johnson-----	95.0	142.8
Randolph-----	44.0	74.6	Jones-----	109.4	90.4
Ripley-----	20.6	61.4	Lee-----	11.8	38.2
Rush-----	54.6	148.0	Linn-----	49.8	112.4
St. Joseph-----	102.2	106.2	Louisa-----	90.6	51.0
Shelby-----	25.4	91.0	Lucas-----	-	7.2
Starke-----	115.8	171.6	Mahaska-----	19.2	93.4
Steuben-----	40.8	147.8	Muscataine-----	142.8	95.6
Sullivan-----	16.8	158.8	Scott-----	111.6	90.2
Switzerland-----	210.2	88.4	Story-----	1.2	12.8
Tippecanoe-----	77.8	108.4	Tama-----	29.4	110.2
Tipton-----	12.4	47.2	Van Buren-----	4.2	12.4
Union-----	102.0	261.2	Wapello-----	8.8	46.2
Vermillion-----	60.8	67.8	Warren-----	-	27.0
Vigo-----	27.8	8.4	Washington-----	19.6	32.8
Wabash-----	79.4	239.8	Worth-----	-	3.0
Warren-----	73.8	357.0			
Wayne-----	83.6	87.8			
Wells-----	104.0	184.6	Average:		
White-----	167.6	370.0	28 counties	44.8	60.5
Whitley-----	101.8	231.0	35 counties	-	50.2
Average:					
69 counties-----	72.9	130.0			

Table 2.--European corn borer abundance in corn, fall of 1945, and comparisons with data for 1944 - Continued

State and county	Average borers per 100 plants 1944	Average borers per 100 plants 1945	State and county	Average borers per 100 plants 1944	Average borers per 100 plants 1945
Number	Number	Number	Number	Number	Number
<u>Kentucky:</u>			<u>Massachusetts:</u>		
Mason-----	20.8	28.6	Bristol-----	84.0	324.2
Simpson-----	14.6	3.2	Franklin-----	112.4	36.2
Trimble-----	15.4	49.2	Norfolk-----	165.4	232.4
Average:			Plymouth-----	326.7	130.0
3 counties----	16.9	27.0	Average:		
			4 counties----	172.1	180.7
<u>Maine:</u>			<u>Michigan:</u>		
Androscoggin--	8.1	82.3	Lenawee-----	90.0	27.2
Cumberland----	13.0	56.0	Macomb-----	59.4	91.0
Franklin-----	11.0	49.6	Monroe-----	65.6	87.6
Hancock-----	2.2	9.9	St. Clair-----	6.8	50.6
Kennebec-----	39.5	85.0	Sanilac-----	40.2	16.8
Knox-----	13.3	40.5	Wayne-----	61.6	42.6
Lincoln-----	33.8	88.8	Average:		
Oxford-----	22.0	71.5	6 counties----	53.9	52.6
Penobscot-----	9.9	29.4			
Piscataquis---	8.0	37.7	<u>Minnesota:</u>		
Sagadahoc-----	5.9	47.5	Dakota-----	-	1.2
Somerset-----	24.9	66.4	Dodge-----	-	2.0
Waldo-----	2.8	52.9	Faribault-----	-	0.4
York-----	16.7	78.8	Fillmore-----	8.8	5.0
Average:-----			Freeborn-----	-	0.4
14 counties----	15.1	56.9	Goodhue-----	-	3.6
			Houston-----	20.0	9.0
<u>Maryland:</u>			LeSueur-----	-	3.0
Anne Arundel--	-	129.0	Martin-----	-	0.8
Baltimore-----	-	263.6	Mower-----	-	0.6
Carroll-----	-	251.8	Olmsted-----	-	2.6
Cecil-----	-	195.2	Rice-----	-	0
Charles-----	-	53.5	Steele-----	-	0
Harford-----	-	276.6	Wabasha-----	-	2.4
Howard-----	-	232.8	Waseca-----	-	0
Montgomery----	-	267.8	Winona-----	-	0
Prince Georges	-	161.1	Average:		
St. Marys-----	-	92.8	2 counties----	14.4	7.0
Somerset-----	-	71.8	16 counties----	-	1.9
Washington----	-	253.0			
Wicomics-----	94.6	18.6			
Worcester-----	48.2	70.2			
Average:					
2 counties----	71.4	44.4			
14 counties----	-	167.3			

Table 2.--European corn borer abundance in corn, fall of 1945, and comparisons with data for 1944 - Continued

State and county	Average borers per 100 plants 1944	Average borers per 100 plants 1945	State and county	Average borers per 100 plants 1944	Average borers per 100 plants 1945
	Number	Number		Number	Number
<u>Missouri:</u>			<u>New Jersey: (Cont'd)</u>		
Buchanan-----	-	0	Ocean-----	267.0	85.8
Clark-----	5.2	32.0	Passaic-----	69.0	26.2
Holt-----	-	0	Salem-----	137.4	314.8
Lewis-----	5.6	37.8	Somerset-----	60.2	56.7
Lincoln-----	4.4	2.5	Sussex-----	24.6	17.0
Livingston-----	-	0	Warren-----	43.4	14.4
Macon-----	-	0.6			
Marion-----	4.6	12.2	Average:		
Pike-----	0.6	9.6	19 counties-----	143.0	118.2
Ralls-----	0.4	1.2			
St. Charles-----	0	7.5	<u>New York:</u>		
St. Louis-----	0.4	21.6	Albany-----	281.4	150.8
			Columbia-----	515.0	378.4
Average:			Dutchess-----	39.2	33.8
8 counties-----	2.7	15.6	Erie-----	101.6	91.4
12 counties-----	-	10.4	Greene-----	125.6	125.2
			Livingston-----	8.0	11.0
<u>New Hampshire:</u>			Monroe-----	5.6	39.6
Belknap-----	43.4	56.8	Nassau-----	597.4	752.8
Carroll-----	23.6	26.4	Niagara-----	5.2	66.0
Cheshire-----	9.4	49.6	Oneida-----	31.6	16.4
Grafton-----	30.8	26.2	Onondaga-----	72.6	16.4
Hillsboro-----	26.4	9.0	Ontario-----	4.8	7.4
Merrimack-----	30.0	23.2	Orange-----	34.4	60.8
Rockingham-----	24.4	9.6	Orleans-----	1.2	15.0
Strafford-----	51.4	28.2	Rensselaer-----	177.2	50.6
Sullivan-----	7.4	32.8	Saratoga-----	94.0	108.8
			Schenectady-----	220.2	31.8
Average:			Suffolk-----	91.2	414.0
9 counties-----	27.4	29.1	Ulster-----	105.6	147.2
			Wayne-----	14.2	6.4
<u>New Jersey:</u>					
Atlantic-----	92.4	59.4	Average:		
Bergen-----	133.7	34.4	20 counties-----	126.3	126.2
Burlington-----	431.8	407.2			
Camden-----	325.4	141.6	<u>North Carolina:</u>		
Cape May-----	83.4	187.2	Camden-----	286.0	5.4
Cumberland-----	106.2	104.8	Currituck-----	502.2	4.8
Essex-Union-----	92.0	83.0	Pasquotank-----	389.4	0.4
Gloucester-----	247.6	266.6			
Hunterdon-----	30.2	77.6	Average:		
Mercer-----	290.0	129.8	3 counties-----	392.5	3.5
Middlesex-----	122.2	107.6			
Monmouth-----	112.4	102.7			
Morris-----	48.2	29.2			

Table 2.--European corn borer abundance in corn, fall of 1945, and comparisons with data for 1944 - Continued

State and county	Average borers per 100 plants		State and county	Average borers per 100 plants	
	1944	1945		1944	1945
	Number	Number		Number	Number
Ohio:			Pennsylvania: (Cont'd)		
Allen-----	62.6	18.0	Dauphin-----	29.9	228.4
Auglaize-----	25.8	163.0	Delaware-----	397.6	469.3
Butler-----	41.2	105.6	Erie-----	30.5	57.5
Champaign-----	150.0	113.6	Franklin-----	2.2	7.9
Clark-----	99.6	176.4	Fulton-----	-	0
Darke-----	47.8	105.8	Indiana-----	2.4	2.3
Defiance-----	22.8	48.0	Juniata-----	17.7	2.1
Fayette-----	41.6	40.2	Lancaster-----	103.8	298.1
Franklin-----	53.8	64.0	Lawrence-----	5.6	7.6
Fulton-----	76.0	82.2	Lebanon-----	38.4	301.4
Greene-----	102.0	128.2	Lehigh-----	136.9	188.3
Hamilton-----	45.8	84.0	Lycoming-----	19.3	20.3
Hancock-----	54.6	29.4	Mercer-----	18.8	26.6
Hardin-----	48.4	42.0	Montgomery-----	293.0	420.3
Henry-----	31.6	71.8	Northampton-----	144.6	193.0
Logan-----	47.6	76.4	Perry-----	30.9	67.4
Lucas-----	29.8	105.0	Philadelphia-----	-	726.3
Madison-----	69.0	56.2	Snyder-----	-	7.3
Mercer-----	57.2	121.8	Somerset-----	-	0
Miami-----	25.2	135.4	Union-----	11.1	6.5
Montgomery-----	48.0	190.0	Westmoreland-----	0.1	1.1
Ottawa-----	21.0	15.4	York-----	117.2	263.7
Paulding-----	32.2	17.4			
Pickaway-----	91.4	66.4	Average:		
Preble-----	40.0	105.0	27 counties-----	75.3	147.1
Putnam-----	106.4	40.0	33 counties-----	-	142.7
Shelby-----	49.8	75.4			
Van Wert-----	169.6	50.2	Rhode Island:		
Williams-----	11.8	27.6	Washington-----	59.0	351.6
Wood-----	18.6	40.2			
			Average:		
Average:			1 county-----	59.0	351.6
30 counties-----	57.4	79.8			
			Vermont:		
Pennsylvania:			Addison-----	21.2	21.4
Adams-----	3.7	102.3	Bennington-----	20.0	12.8
Allegheny-----	-	3.1	Caledonia-----	-	11.0
Armstrong-----	7.0	2.9	Chittenden-----	16.2	30.7
Bedford-----	-	0	Franklin-----	10.4	7.2
Berks-----	102.8	266.4	Grand Isle-----	21.4	6.4
Bucks-----	201.8	411.2	Orange-----	15.4	46.2
Butler-----	1.5	3.0	Rutland-----	22.6	37.6
Centre-----	6.8	24.8	Washington-----	33.4	28.2
Chester-----	279.7	520.3	Windham-----	148.8	11.4
Crawford-----	16.8	22.4	Windsor-----	73.2	42.1
Cumberland-----	12.6	57.5			
			Average:		
			10 counties-----	38.3	24.4
			11 counties-----	-	23.2

Table 2.--European corn borer abundance in corn, fall of 1945, and comparisons with data for 1944 - Continued

State and county	Average borers per 100 plants		State and county	Average borers per 100 plants	
	1944	1945		1944	1945
	Number	Number		Number	Number
<u>Virginia:</u>			<u>Wisconsin (Cont'd)</u>		
Accomac-----	505.8	581.2	Green Lake-----	-	51.0
Clarke-----	-	7.2	Iowa-----	9.7	63.2
Culpeper-----	0.8	0	Jefferson-----	31.3	38.6
Fairfax-----	25.6	37.4	Juneau-----	-	24.8
Fauquier-----	0.8	30.0	Kenosha-Racine---	-	65.4
Frederick-----	-	0	Kewaunee-----	102.0	58.0
Gloucester-----	11.2	4.4	La Crosse-----	13.3	27.2
Loudoun-----	133.0	161.8	Lafayette-----	59.8	112.0
Nansemond-----	-	3.6	Manitowoc-----	65.2	71.8
Norfolk-----	14.6	3.0	Marinette-----	31.6	74.3
Northampton-----	743.4	290.8	Marquette-----	-	17.6
Prince William--	7.8	41.4	Oconto-----	7.7	91.8
Princess Anne---	601.8	83.2	Outagamie-----	79.8	216.8
Westmoreland---	25.6	5.6	Ozaukee-----	19.6	189.0
			Portage-----	-	28.3
			Richland-----	-	125.6
Average:			Rock-----	107.3	14.2
11 counties-----	188.2	112.6	Sauk-----	9.8	26.2
14 counties-----	-	89.3	Shawano-----	75.3	114.2
			Sheboygan-----	83.0	150.2
<u>Wisconsin:</u>			Trempealeau-----	-	15.6
Adams-----		9.7	Vernon-----	12.4	22.8
Brown-----	58.2	156.0	Walworth-----	35.8	104.0
Buffalo-Pepin---	-	16.4	Washington-----	89.4	79.2
Calumet-----	56.6	92.8	Waukesha-Milwaukee	-	33.2
Columbia-----	12.0	36.8	Waupaca-----	29.3	88.0
Crawford-----	-	44.0	Waushara-----	-	23.8
Dane-----	21.5	72.3	Winnebago-----	23.6	154.6
Dodge-----	18.0	60.4			
Door-----	140.6	113.6	Average:		
Fond du Lac-----	102.8	48.2	28 counties-----	49.3	85.0
Grant-----	23.2	61.8	40 counties-----	-	70.9
Green-----	62.6	41.2			

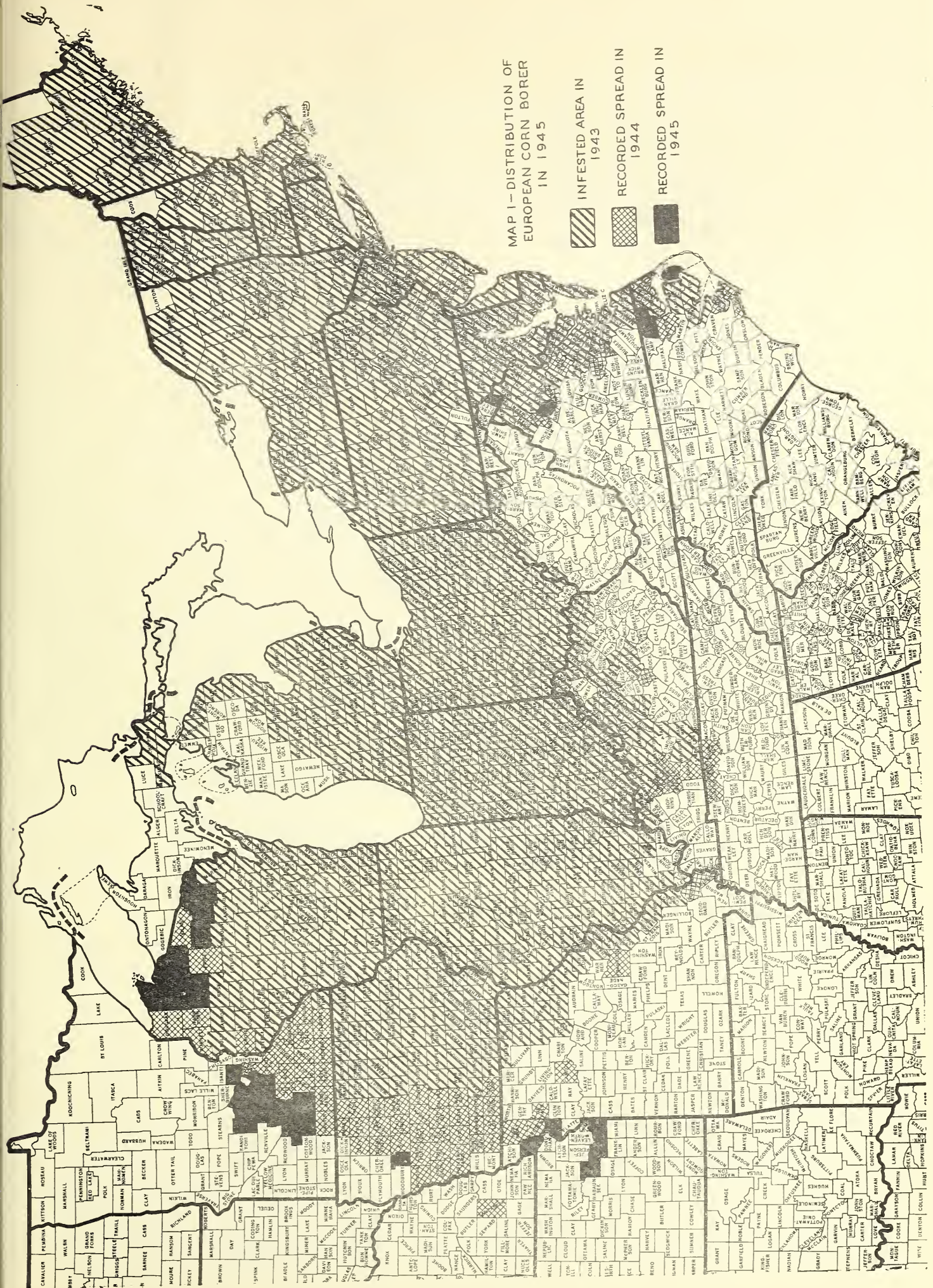
Table 3.--European corn borer abundance in early sweet corn, summers of 1944 and 1945 ^{1/}

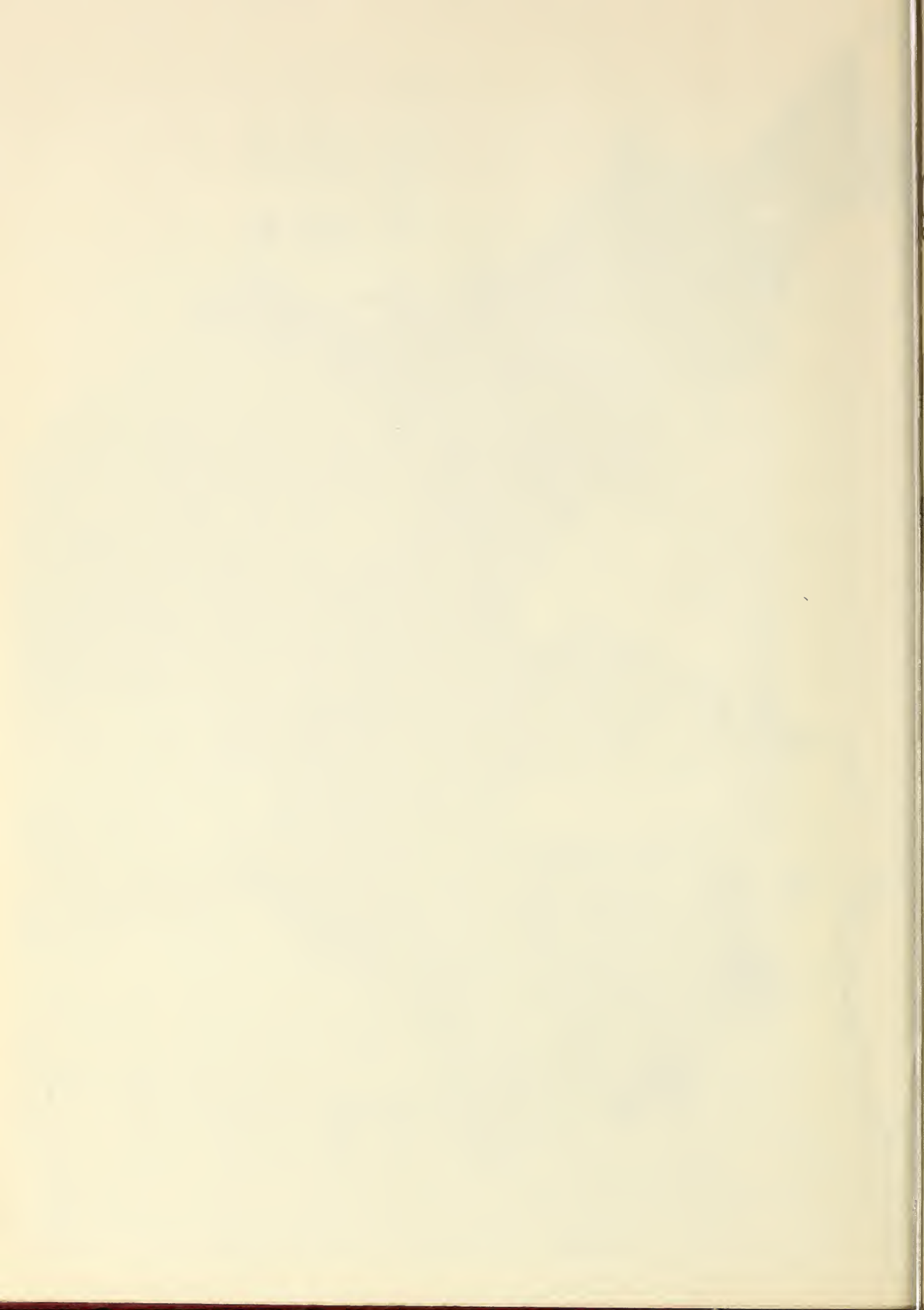
State and county	Locality	1944		1945	
		Average		Average	
		Fields	per plant	Fields	per plant
		Number	Number	Number	Number
<u>Connecticut:</u>					
New Haven	New Haven	20	7.4	20	2.0
<u>Illinois:</u>					
Madison and					
St. Clair	E. St. Louis	10	0.2	9	0.3
Rock Island	Rock Island	-	-	4	4.4
<u>Iowa:</u>					
Muscatine	Muscatine	5	0.6	10	3.3
<u>Maine:</u>					
Androscoggin	-	20	0.2	17	0.1
Cumberland	-	20	0.2	20	0.5
Oxford	-	19	0.1	19	0.1
York	-	20	0.3	20	1.4
<u>New Jersey:</u>					
Burlington	Beverly	20	6.9	20	1.6
<u>Ohio:</u>					
Hamilton	Cincinnati	7	12.7	10	6.2
Lucas	Toledo	20	10.0	9	10.2
<u>Michigan:</u>					
Monroe	Erie	-	-	3	3.7

^{1/} The Maine data were supplied by the Maine State Department of Agriculture, and data from Hamilton County, Ohio, were procured in cooperation with the Ohio Agricultural Experiment Station.

MAP I—DISTRIBUTION OF
EUROPEAN CORN BORER
IN 1945

- INFESTED AREA IN
1943
- RECORDED SPREAD IN
1944
- RECORDED SPREAD IN
1945





M P 2 - ABUNDANCE OF
EUROPEAN CORN BORER
IN 1945

BORERS PER 100 PLANTS

